

Elizabeth Kenderes (Gammel)

Education

- 2018 **Ph.D. in Geological Sciences; Minor in College Education**, University of Missouri, Columbia, MO
Advisor: Dr. Peter I. Nabelek
Dissertation: Source variation for Mesozoic granitoid plutons in the White-Inyo Range, California, and implications for determining lithospheric structure
- 2014 **M.S. in Geological Sciences**, University of Missouri, Columbia, Missouri, Columbia, MO
Advisor: Dr. Peter I. Nabelek
Thesis: Role of Li and B bearing fluids in crystallization and alteration of granitic pegmatites, San Diego, California
- 2012 Geology Summer Field Camp, Southern Illinois University (6-week course)
- 2012 **B.S. in Earth Science *Summa Cum Laude***; minor in Environmental Studies, Northeastern Illinois University, Chicago, IL
Advisor: Dr. Genet I. Duke
Senior Thesis: Petrology and geochemistry of the Judith Mountains alkali igneous center, Montana, USA
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Relevant Employment History

- 2020–present **Instructional Assistant Professor**, Texas A&M University, College Station, TX
- 2019–2020 **Visiting Assistant Professor**, University of Missouri, Columbia, MO
- 2019 **Visiting Assistant Professor**, Northern Illinois University, Dekalb, IL (spring semester)
- 2015 **Visiting Lecturer**, University of North Carolina, Chapel Hill, NC (spring semester)
**Concurrent with PhD studies*
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Teaching Experience

- Instructor**
- Spring 2021 **Texas A&M University**
Principles of Geology–asynchronous online (300 students; 3 credit hours)
Disasters & Society (56 students; 3 credit hours)
Principles of Geology Laboratory–TA facilitator (12 sections; 1 credit hour)
- Fall 2020 Principles of Geology–asynchronous online (150 students; 3 credit hours)
Principles of Geology–synchronous (141 students; 3 credit hours)
Principles of Geology Laboratory–TA facilitator (11 sections; 1 credit hour)
- Summer 2020 Principles of Geology–asynchronous online (76 students; 3 credit hours)
Principles of Geology Laboratory–TA facilitator (2 sections; 1 credit hour)
- Spring 2020 **University of Missouri–Columbia**
Igneous and Metamorphic Petrology (16 students; 4 credit hours)
Planet Earth (76 students; 3 credit hours)
Volcanoes and the Human Environment–Honors (21 students; 3 credit hours)
- Fall 2019 Mineralogy (21 students; 5 credit hours)
Principles of Geology for Scientists and Engineers (12 students; 4 credit hours)
Volcanology (48 students; 1 credit hour)
 - 5-week thematic course

- Spring 2019 *Northern Illinois University*
 Graduate Level:
 - Subduction Zone Processes (7 students; 3 credit hours)
 Cross listed Graduate–Undergraduate:
 - Igneous and Metamorphic Petrology with lab (12 students; 4 credit hours)
 - Plate Tectonics (9 students; 3 credit hours)

Spring 2017 *University of Missouri – Columbia*
 Geology Field Camp, Petrology Instructor (46 students; 6 credit hours)

 - 6-week summer course at Branson Field Laboratory
 Igneous and Metamorphic Petrology with lab (17 students; 4 credit hours)

 - Project-based course

Spring 2016 *University of North Carolina – Chapel Hill*
 Graduate Level:

 - Igneous Petrology Seminar: Tectonic controls on petrogenesis of Sierra Nevada batholith (5 students; 1 credit hour)
 Undergraduate Level:

 - Petrology and Plate Tectonics with lab (16 students; 4 credit hours)

*All following teaching experience at *University of Missouri – Columbia*

Teaching Assistant

- 2016–2018 Mineralogy Lab (2 credit hours)
- 2018/2015 Igneous and Metamorphic Petrology Lab (1 credit hour)
- 2013–2015 Lead Teaching Assistant for Introductory Labs (4-6 contact hours)
 - Oversee all introductory-level geology courses, field trips, course evaluations, etc.
 - Teach two labs sections of Principles of Geology or Environmental Geology
 - Substitute for professors in 300+ student lectures
- 2012–2013 Principles of Geology (6 contact hours)

T.A. Field Experience

- 2016 Regional Geology: Spain (6 credit hours)
 Aid in 18-day field trip to northern Spain
 Geology Field Camp (6 credit hours)
 - 6-week summer course at Branson Field Laboratory
- 2015 Sedimentology and Stratigraphy (4 credit hours)
 - Aid in weekly lab exercises
 - Aid in week-long stratigraphy and mapping field trip to West Texas; Guadalupe Mountains
- 2014 Introductory Field Geology (4 credit hours)
 - Aid in weekly lab exercises
 - Aid in week-long field trip to metamorphic core complexes in Arizona

Other

- 2014 Online Principles of Geology (4 credit)
 - Co-developed course materials
 - Wrote seven modules: Metamorphic Rocks, Earthquakes, Earth's Interior, Rock Deformation, Dating Methods, Mineral Resources, Groundwater, Glaciers and Ice Ages

Journal Publications

Khajeloo, M., Birt, J.A., **Kenderes, E.M.**, Sielgel, M.A., Nguyen, H., Ngo, L.T., Mordhorst, B.R., and Cummings, K., 2021, Challenges and accomplishments of practice formative assessment: A case study of college biology instructors' Classrooms, *International Journal of Science and Mathematics Education*, doi: 10.1007/s10763-020-10149-8.

Gammel, E.M., and Nabelek, P.I., 2016, Fluid inclusion examination of the transition from magmatic to hydrothermal conditions in pegmatites from San Diego, California, *American Mineralogist*, v. 101, i. 8, pp. 1906–1915.

Conference Papers/Abstracts

Gammel, E.M., Nabelek, P.I., 2018, Evidence for an underplated island arc as the source of a continental arc monzonite, American Geophysical Union National Conference, V34C-06.

Gammel, E.M., Nabelek, P.I., 2018, Amphibole, clinopyroxene and titanite as petrogenetic tracers in the EJB pluton, White-Inyo Range, east-central California, USA, Geological Society of America, Abstracts with Programs 66-3.

Khajeloo, M., Birt, J.A., Siegel, M., Ngo, L., Nguyen, H.T., **Gammel, E.M.**, Cummings, K., Mordhorst, B., 2018, College biology instructors' personal practice assessment theories' influence on formative assessment practices, National Association for Research in Science Teaching Annual Meeting.

Birt, J.A., Khajeloo, M., Siegel, L.T., Ngo, L., Nguyen, H.T., **Gammel, E.M.**, Cummings, K., and Mordhorst, B.R., 2017, Instructors' formative assessment in undergraduate biology: influences, context, and practices, National Association of Biology Teachers: 2017 Professional Development Conference.

Gammel, E.M., and Nabelek, P.I., 2017, Lithospheric structure control on changes in magma source over two magmatic pulses in the White-Inyo Range, CA, Geological Society of America, Abstracts with Programs 140-7.

Gammel, E.M., and Nabelek, P.I., 2016, Spatial and temporal changes in sources of Mesozoic arc plutons in the White-Inyo Range, California, USA, Geological Society of America, Abstracts with Programs 47-12.

Gammel, E.M., Nabelek, P.I., Phillips, E., Scott, R., and Sims, K., 2015, Source variation for Mesozoic granitoid plutons in the White-Inyo Range, California, and implications for changes in the lithospheric structure, American Geophysical Union National Conference, T31F-2908.

Gammel, E.M., and Nabelek, P.I., 2014, The role of Li, B, F, and Cl bearing fluids in the crystallization and mineralogy of granitic pegmatites, Geological Society of America, Abstracts with Programs 286-9.

Gammel, E.M., and Nabelek, P.I., 2013, Evolution of Li- and B-bearing fluids in granitic pegmatites systems, Geological Society of America, Abstracts with Programs 331-7.

Gammel, E.M., and Duke G.I. 2011, Petrology and geochemistry of the Judith Mountains alkalic igneous center, Montana, USA, Geological Society of America Abstracts with Programs 43 (5).

Research Interests

Igneous petrology; Radiogenic isotopes; Mineral chemistry

- Geochemical links to tectonic development of western North America during the Mesozoic
- Radiogenic isotope geochemistry of whole rock and mineral separates
- Magma mixing and homogenization processes
- Mineral crystallization controls on magma petrogenesis
- Mineral exploration and petrologic and elemental analysis of gem-bearing pegmatites
- Analysis of pegmatite forming fluids by fluid inclusion study

Lab Experience

Ion chromatograph	Scanning electron microscope
Laser ablation ICP-MS	Transmission electron microscope
Fluid inclusion stage	Electron microprobe
Thermal Ionization Mass Spectrometer	Clean lab
Cathodoluminescence	Zircon chronology

Field Experience

- 2019–2014 St. François Mountains, Missouri; Total of four weekend trips; 2014 for a graduate petrology course; 2015 and 2018 as a Teaching Assistant for an igneous and metamorphic petrology course; 2017 and 2019 as instructor of igneous and metamorphic petrology courses
- 2018 Arbuckle Mountains, Oklahoma; Weekend trip sponsored by the American Association of Petroleum Geologists; Focuses: economic geology, sedimentary and petroleum geology, structure
- 2017 Northern Spain; Cantabrian Mountains, Pyrenees Mountains; Lead by: Dr. Miriam Barquero-Molina
- 2016–2017 Geology Field Camp (6-week summer): Based in Brandon Field Laboratory, Winder River Range, Lander, Wyoming through University of Missouri-Columbia
Instructor and teaching assistant; field techniques; geologic mapping; stratigraphy; regional Paleozoic, Mesozoic, Tertiary, and glacial geology; sedimentary facies analysis; structural analysis; Grand Teton and Yellowstone National Parks; Absaroka Range volcanics; advanced projects (groundwater; surface hydrogeology; shallow seismic reflection and refraction; advanced structural analysis; well logging)
- 2013/14/16/18 White-Inyo Range, central California; Ph.D. dissertation research; Mesozoic arc plutons and contact aureoles; 2–3 weeks/year for field research and sample collection with Dr. Peter I. Nabelek
- 2015 Guadalupe Mountains, Texas/New Mexico; Teaching Assistant for a sedimentology and stratigraphy course; basic sedimentary analyses and carbonate stratigraphic column measurement; day trips to White Sands and Carlsbad Caverns
- 2014 Buckskin Mountains, Arizona; Teaching Assistant for an introductory field methods course; mapping metamorphic core complexes associated with Basin and Range tectonics; basic structural analysis
- 2013 Anorthosite Complex, Laramie, Wyoming; Geological Society of America field trip lead by Ron Frost and Robert Bauer
- 2013 San Diego County, California pegmatite district; M.S. thesis research; pegmatites hosted in Mesozoic arc plutons; shallow emplacement, Li-Cs-Ta type, gem-bearing pegmatites; 2 weeks of field research and sample collection with Dr. Peter I. Nabelek and Dr. Mona Sirbescu
- 2012 Geology Field Camp (6-week summer): Based in Yellowstone Bighorn Research Association, Red Lodge, Montana through Southern Illinois University
Geologic mapping in: Elk Basin, WY/MT; Block Mountain, WY; Bitterroot Mountains, ID; Bighorn Mountains, MT. Focuses on Paleozoic, Mesozoic, Tertiary, and glacial geology; Yellowstone and Grand Teton National Parks; Craters of the Moon National Monument; Laramide and Sevier tectonics
- 2012 Baraboo, Wisconsin; Metamorphic terrane; 2 long weekend trips for a structural geology course and a weekend trip lead by instructors at the University of Wisconsin-Madison

Grants and Fellowships

- 2018 Gamma Alpha Gamma Dissertation Year Fellowship (Amount awarded: \$9000)
- 2013 Graduate Research Grant: Geological Society of America
- Gammel, E.M., 2013, Li and B controls on water solubility and crystal alteration of pegmatite systems, Southern California, USA. (Amount awarded: \$2500)

Awards

- 2019 Northern Illinois University, Outstanding Graduate Studies Professor
- 2017 University of Missouri, Sandra K. Abell Science Education Award
- 2015 Department of Geological Sciences Outstanding Graduate Student Award
- 2014 James H. Stitt Outstanding Teaching Assistant Award
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Professional Memberships

- 2011–present Geological Society of America
- 2011–present Society for the Advancement of Chicanos/Chicana and Native Americans in Science (SACNAS)
- 2013–present Mineralogical Society of America
- 2013–present American Association of Petroleum Geologists
 - University of Missouri Student Chapter Vice President (2014–2017)
- 2014–present American Geophysical Union

Academic Service

- 2020–present National Association of Black Geoscientists Texas A&M University Chapter–Faculty Advisor
- 2020–present Curriculum Committee, Department of Geology & Geophysics, Texas A&M University
- 2020–present Undergraduate Program Committee, Department of Geology & Geophysics, Texas A&M University
- 2020–present Undergraduate Recruitment and Awards Committee, Department of Geology & Geophysics, Texas A&M University
- 2017–2018 Graduate Student Representative of the Environmental Affairs and Sustainability University Committee, University of Missouri
- 2017–2018 Graduate Student Professional Council; Geological Sciences Department Representative, University of Missouri
- 2017–2018 Graduate Student Professional Council Financial Affairs Committee, University of Missouri
- 2017–2018 University of Missouri Geological Society Vice President
- 2014–2017 American Association of Petroleum Geologists, University of Missouri Student Chapter Vice President

Certifications

- In progress* Certificate in Effective College Instruction from the National Association of System Head-Association of College and University Educators (NASH-ACUE)
- In progress* Inclusive Teaching: Supporting all Students in the College Classroom from EdX
- 2015 Certified undergraduate mentor by the University of Missouri’s Howard Hughes Medical Institute C³ program (collaboration, computation, communication)

Relevant Volunteer Contributions

- 2018 Organized a 4-H event where students ages 5–13 learn about basic geology, mineral identification, and fossils
- 2012–2018 Scout Night; annual event for boy and girl scouts to earn their geology badge
- 2012–2018 Bi-annual event targeted for elementary and middle school aged students to interact with scientists from the University of Missouri